

## BIOC 535: Practical Protein Crystallography

Credits: 1

**Prerequisites:** Concurrent or prior Bioc482/552 Structural Biology or consent of instructor

**Instructor:** George N. Phillips (georgep@rice.edu)

TA: Dr. Jayashree Soman (jaya@rice.edu) Office hours by appointment.

**Date/Time/Place:** To be arranged by direct contact with Prof. Phillips and Dr. Soman during the second half of the semester.

**Textbook/Readings:** B. Rupp, *Biomolecular Crystallography: Principles, Practice, and Application to Structural Biology*, Lattman and Loll, *Protein crystallography: A concise guide*. 2008, Johns Hopkins Press (Kindle or Amazon), IUCr On-line dictionary of crystallography (free access),

**Course Description:** Structural biology plays an important role in defining atomic structures of biomolecules and understanding relationships between structure, dynamics and function. This course will give practical experience in techniques of determining biomolecular structures, X-ray crystallography. Designed for advanced undergraduates and beginning graduate students in the biological or physical sciences. Students will grow protein crystals, take diffraction data, and solve a protein structure during the second half of the semester.

**Course Objectives and expected learning outcomes:**

- To demonstrate through hand on exercises, the practice of X-ray crystallography in modern structural biology and biomedicine

**Grading:** Course grade based equally on two components. Participation and completion of practical experiments.

**Rice Honor Code:** Students are required to use proper citations and follow other practices outlined in the Rice Honor Code information on Academic Fraud and Acknowledgement of Sources: <http://honor.rice.edu/honor-system-handbook/>

**Accommodations for students with disabilities:** Any student with a documented disability needing academic adjustments or accommodations is requested to speak with the instructor during the first two weeks of class. All discussions will remain confidential. Students with disabilities also should contact Disability Support Services in Allen Center.